

THE MONTANA SUGGESTIONS
for the Translator Upgrade Conversion Program
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At the recent National Translator Association (NTA) conference May 16th, NTIA representatives asked for suggestions from the NTA attendees regarding the Digital Translator Upgrade Conversion Program. This document is a response to that request.

The proponents of the suggestions contained herein are: Charlie Cannaliato, engineer for the Montana Broadcaster's Association (MBA), and Lee Good of Rural Television System (RTS). Charlie, until his recent retirement, was formerly Director of Engineering for Eagle Communications for over thirty-two years. Eagle Communications operates three full-power TV stations, one Class A LPTV, and also operates numerous translators and microwave relay systems throughout Montana. Charlie also installed the first and only digital translator in the state of Montana (K43FI-D). Lee developed and operates the RTS Mini-Stations that bring PBS and Local Origination to many small rural communities in several rural Western states. In this twenty year process he has worked closely with Translator Districts in a multi-state area and also has had prior experience with PTFP grants that funded most of these facilities. Charlie and Lee have met several times to prepare the suggestions contained in this document and have exchanged ideas in the development of this document by email.

The suggestions contained in this document are based on our personal knowledge and experience in working with TV Districts and are based on the following premises:

- ⇒ The individual project costs must be minimized to insure that the funds available will cover the requirements of the many rural communities that need technical and financial help in converting their facilities to DTV. The project must be limited to very small rural communities (less than 10k inhabitants), and must be limited to non-profit and governmental agencies like TV Tax Districts. The equipment to be replaced must be confined to only the devices that absolutely require replacement, i. e., analog translators. Antennas, cables pre-amps, towers, building and improvements, etc., should not qualify for reimbursement under this part of the conversion program.
- ⇒ The project has to have a very simple application process for the rural communities. A Web-based system similar to NTIA's STB (Set top box) program is very applicable. The present FCC License and STA (Special Temporary Authority) databases already contain the necessary information to verify and qualify the Applicant, and to identify the transmitter power of the equipment to be replaced.

- ⇒ The project has to be automatically processed and easily administered by NTIA because of the numbers of sites to be updated and the limited staffing available at NTIA to administer the program. Therefore, the Applicant variables must be eliminated and the process needs to be Web-based with the Applicant, Manufacturer, and Installer providing the project input, processing, and completion data.
- ⇒ There needs to be a "checks and balances" capability to prevent fraudulent applications, or persons creating new translator systems that didn't exist prior to the conversion program, and to assure that the conversions are completed in a timely manner. The present FCC license and STA database can be used to police the applications and easily verify the completion.

Suggested Replacement Process

With the above premises in mind, we suggest the following replacement process:

1. The Applicant applies to NTIA via a Web page application separately for each licensed or STA-enabled translator it presently operates. A Construction Permit (CP) would not qualify for funds as it is not operational. If the CP is for a digital Companion Channel, the original paired analog channel is licensed and therefore qualifies for the replacement equipment that can be then used to activate the Companion Channel. There are many STA-authorized translators presently in operation and they must be included in this process.
2. The application is processed by the Web page input and a redeemable Coupon certificate indicating the call sign of the translator is issued automatically and sent to the Applicant. The value of the Coupon is based on the following not-to-exceed amounts:

- 1-watt analog VHF translator replacement = \$6250
- 10-watt analog VHF translator replacement = \$12,000
- 1-watt analog UHF translator replacement = \$6250
- 10 to 30-watt UHF translator replacement = \$13,500
- 100-watt UHF translator replacement = \$20,500

These amounts will purchase the corresponding power DTV translator (including the required digital signal regenerator in all cases) and is based on the Published List Price (PLP) from the manufacturer that has provided the majority of translators in the Western States.

The above amounts include \$500 additional installation monies over the Published List Price (PLP) for the digital translator system. As translators are usually grouped in threes and fours, this would make \$1500 - \$2000 available to

get the replacement system installed and operational. If all of the translators at one site are replaced at one time, this amount should be adequate to pay for round-trip mileage, travel time, on-site technical time, and per diem, from a major nearby community. It would also help provide some miscellaneous cable connectors and hardware that will be needed.

The Applicant would also agree on the Application and on the Coupon that "By Accepting and Redeeming this coupon I hereby agree to place this DTV replacement translator in service within 180-days of the manufacturer's ship date, and to operate and maintain this equipment in the best interests of the community for at least a five-year period".

3. The Applicant redeems his Coupon(s) to any translator Manufacturer or his authorized Dealer that presently has FCC type-approved digital translator equipment available. The manufacturer ships the DTV translator directly to the Applicant and then redeems the Coupon over the Web Application page to the NTIA program. The Manufacturer indicates the make, model, serial number, and ship date on the Web page for the particular call sign replacement. When the Manufacturer receives compensation from NTIA for the Coupon, he will remit the \$500 installation fee portion of the Coupon back to the Applicant or the Installer.

The manufacturer cannot charge the NTIA program more than his current "Published List Price" (PLP) plus the \$500 Installation fee. If his PLP is higher than the Coupon value, the Applicant must make up the difference. If the PLP is lower than the not-to-exceed Coupon value, then the manufacturer must charge the NTIA program his PLP only plus the \$500 installation rebate to the Applicant. There are probably only five to ten US manufacturers of TV translators at present so it shouldn't be too cumbersome to set this up.

4. The Applicant receives his equipment and installs it and places it in service within the 180-days period. He then goes back to the Web page for this translator and indicates that he has completed the installation and enters the serial number again for the unit as verification. The serial number is automatically checked against the manufacturers' prior input to check for errors. If all matches, the installation is considered complete for that translator call sign.

5. After the installation phase is complete, the FCC or NTIA representative or independent contractor can easily verify that the translator has been converted and is operational via monitoring the off-air signal with a digital TV and antenna.

Three Application Windows

We would suggest up to three Application Windows lasting 60-days each and spaced maybe three months apart. The first window would be for simple translator replacements using the process indicated above and a certain portion of the available funds should be allocated to Coupons for this first Window. The second window would be for LPTV applications (those systems that are Originating programming in the local community only, not those that are just licensed as LPTV but not locally originating), and Special Multi-Community Applications that will require NTIA technical evaluations. The third Window would be a clean-up Window and could be for all types of applications.

An advantage to the Coupon program coupled with the Web application is that the program can begin immediately, but with the automatic issuance of the Coupons later when funds are finally available. In the meantime, the level of interest in the program can be gauged and the available funds applied accordingly.

The Special Multi-Community Application is needed for those communities out so far from an originating group of TV stations that digital conversion of the existing translator relay links will not provide the reliability of signal needed for signal delivery to the remote community translator. In Montana there are several of these situations: For example, East of Billings toward Colstrip, Baker, Plevna, and Ekalaka; Northeast of Gt. Falls to Glasgow, Hinsdale, and Nashua; and West of Missoula towards St. Regis, Plains, Thompson Falls, Trout Creek and Noxon. The analog signals are presently poor and full of powerline interference and noise which varies with the weather. If any of the intermediate relay sites suffer the "cliff effect" because of varying signal levels, it will blank or "freeze" the finally delivered signal. If there are multiple relays, this will be accumulative resulting in a very unsatisfactory delivery system and very unhappy viewers with the new digital technology. The viewers will go from an excellent picture and sound to no picture or sound repeatedly. Before they just went from poor to really poor analog signals, but they could still see and hear the program.

We are also aware of these same situations existing in other sparsely populated Western States such as Nevada, Utah, and Northern California. If a rural community has once received a distant urban signal that has local / regional news and weather that they depend on, they should be able to receive it reliably after the DTV conversion. These conversions will need outside engineering help to build a replacement system with reliability, probably using multi-channel microwave. As there are already licensed UHF translator relays to deliver the analog signals to remote communities, possibly their Coupons for these translators could be applied toward microwave equipment instead of digital translators with special NTIA concurrence.

There also may be a need for communities that have applied for their Coupon to replace their local translator to now apply for an STL link. The STL link may be needed because their present translator location does not have a reliable digital signal source because of weather and path loss variables. They should have the right to apply for microwave links or UHF STL's to find a better receive location (line-of-sight) to receive the signal from the distant station.

Summary

We hope this input will be useful in helping determine the Translator Upgrade Conversion Program. If either of us can answer more questions or provide further information to help clarify our thoughts, we can be reached at either of the two following email addresses / telephones:

Charlie Cannaliato (MBA)
Lee Good (RTS)

Thank you for the opportunity to provide these suggestions. We know NTIA will receive other inputs from other groups and individuals as well, and if you put them all together with your own experience, it should work for most everyone.